

REMARKS

In response to the Office Action, Claims 8 and 11 have been amended to comply with the requests made in the Office Action and to obviate the claim object and the rejection under 35 USC 112, second paragraph. In addition, Claims 9 and 22 have been amended. No new matter is added. Claims 1-27 remain pending. Reconsideration and allowance of this application are respectfully requested.

Claims 1-10, 12-14, 16-17 and 19-27 stand rejected under 35 USC 102(a) over Flagan. This contention is respectfully traversed.

Consider Claim 1 which recites, among others, a thermal control engaged to said chamber to produce a monotonic thermal profile in a stream-wise direction of the aerosol flow from said input to said output in said chamber. Flagan does not disclose such a thermal control. In Flagan, the cloud condensation nucleus spectrometer has a streamwise segmented condensation nucleus growth column. Notably, the condensation nucleus growth column in Flagan includes alternating hot and cold temperature-maintaining segments arranged next to one another. See the Abstract of Flagan. This design is different from the recited "monotonic thermal profile in a stream-wise direction of the aerosol flow from said input to said output in said chamber" in Claim 1 because the alternating hot and cold temperature-maintaining segments arranged next to one another in Flagan does not produce a monotonic thermal profile in the stream-wise direction.

Therefore, Claim 1 is patentable over Flagan. Accordingly, Claims 2-10, 12-14, 16-17 and 19-24 are also patentable for the above reason and based on their own merits.

Claim 25 recites controlling a temperature profile of the chamber along the aerosol flow to produce a nearly constant supersaturation along the chamber. The Office Action cites Col. 3 and Col. 4 in Flagan to support the rejection to Claim 25. However, Flagan does not support the rejection. More specifically, in Col. 4, lines 30-34, Flagan teaches:

This special temperature profile can produce a monotonically increasing supersaturation profile along the center line of the condensation column 120 and can maintain a desired high spatial rate throughout the condensation column 120 without a significant decay near the output end 120B.

Therefore, Claim 25 is patentable. Accordingly, Claims 25 and 27 are patentable based on the above reason and on their own merits.

Claims 1, 7-9, 16, 18, 22 and 25 stand rejected under 35 USC 102(a) over Russell. This contention is respectfully traversed.

To support the rejection, the Office Action cites Col. 5, lines 10-18. The text in Col. 5, lines 3-18 is quoted below:

A preferred embodiment, the Automated Mobility-Classified-Aerosol Detector (AMCAD), has an alternating dual-bag sampler, a particle charger, an improved differential mobility analyzer (DMA), and a condensation nucleus counter (CNC). The implementation of automated feed back control of flow rates allows the preferred embodiment of the present invention to achieve high-resolution and high precision measurements under changing pressures. The AMCAD also controls the temperatures of the saturator and the condenser in the condensation nucleus counter to achieve consistent high counting efficiency as the temperature of the incoming aerosol sample changes. The adverse effects associated with the humidity level of the aerosol sample are reduced by desiccating the dilution flow that mixes with the aerosol sample flow at the entrance of the condensation nucleus counter.

The above cited portion of Flagan does not disclose "a thermal control engaged to said chamber to produce a monotonic thermal profile in a stream-wise direction of the aerosol flow from said input to said output in said chamber" as recited in Claim 1. Therefore, Claim 1 is patentable.

Similarly, Claims 7-9, 16, 18 and 22 are patentable based on the above analysis and on their own merits.

Claim 25 recites controlling a temperature profile of the chamber along the aerosol flow to produce a nearly constant supersaturation along the chamber. The Office Action, once again, cites the above quoted text in Col. 5, lines 10-18 to show the teaching by Flagan. This contention, however, lacks the support by Flagan based on the disclosure in the above quoted text. Therefore, Claim 25 is patentable.

Claims 11 and 15 stand rejected under 35 USC 103(a) over Flagan. This contention is respectfully traversed based on the above analysis for Claim 1 because the base Claim 9 of Claims 11 and 15 also cites that "the heating system is configured to produce a monotonic thermal profile in a stream-wise direction of the flow" as cited in Claim 1. Therefore, the rejections must be withdrawn.

Claim 18 stands rejected under 35 USC 103(a) over Flagan in view of Russell. Claim 18 is based on Claim 9 and thus is patentable over Flgan in view of Russell based on the above analysis with respect to Claim 1 in connection with Flagan and Russell, respectively. Therefore, Claim 18 is patentable.

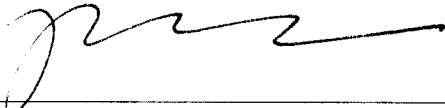
It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims

(or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Applicants ask that all claims be allowed. Please apply the fee of \$60 for a one-month extension of time, and any other applicable charges, or credits, to deposit account 06-1050.

Respectfully submitted,

Date: February 25, 2008



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